

## BALANCED ORIFICE PLATE

ABSTRACT OF THE DISCLOSURE

An orifice plate for use in a conduit through which fluid flows is defined by a central circular region having a radius  $R_0$  and a ring-shaped region surrounding the central circular region. The ring-shaped region has holes formed therethrough with those holes centered at each radius  $R$  thereof satisfying a relationship

$$A_R = a / (X_R V_R^b)$$

10 where  $A_R$  is a sum of areas of those holes having centers at radius  $R$ ,

$X_R$  is a flow coefficient at radius  $R$ ,

$V_R$  is a velocity of the fluid that is to flow through the conduit at radius  $R$ ,

15  $b$  is a constant selected to make at least one process variable (associated with the fluid that is to flow through the conduit) approximately equal at each radius  $R$ , and

$a$  is a constant that is equal to  $(X_R A_R V_R^b)$  at each radius  $R$ .

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail in an envelope addressed to: Commissioner of Patents, P. O. Box 1450, Alexandria, VA 22313-1450, on the date of signature below

Date 12-19-93 Signature Lisa R. Hughes

Express Mail EK828579119US